



# **SEVERE WEATHER PREPAREDNESS**

**Illinois Emergency Management Agency**

\_\_\_\_\_ Rod R. Blagojevich \_\_\_\_\_  
GOVERNOR

William C. Burke  
DIRECTOR

Developed in cooperation with the National Weather Service Forecast Offices  
in Lincoln and Romeoville, Illinois, and the American Red Cross

**2004**

# ILLINOIS SEVERE WEATHER FACTS

There are a number of severe weather hazards that affect Illinois, including thunderstorms, tornadoes, lightning, floods and flash floods, damaging winds and large hail. Severe weather hazards have the potential to cause extensive property damage, injury and/or death.

## **Tornadoes**

- A tornado is a violent, rotating column of air extending from a thunderstorm to the ground.
- Most tornado damage paths are less than 100 yards wide and a couple of miles long, but can be up to a mile wide and 50 miles long.
- Most tornadoes occur in the spring, but they have occurred every month of the year.
- In 2001, 21 tornadoes were reported in Illinois.
- In 2002, 35 tornadoes occurred in Illinois resulting in four deaths and 64 injuries.
- In 2003, a record setting 120 tornadoes occurred in Illinois, resulting in two deaths, 81 injuries, and more than \$40 million in damage. The previous record was 107 set in 1974.
- There is an average of 31 tornadoes per year in Illinois. Most tornadoes produce winds 60 to 112 mph. The most violent tornadoes can produce winds up to 318 mph.

## **Thunderstorms**

- Severe thunderstorms can produce tornadoes, damaging winds, lightning, hail or heavy rain.
- Thunderstorms are most likely to happen in the spring and summer.
- In Illinois, severe thunderstorms frequently occur in the late afternoon or evening.
- Each year, more people are killed by lightning than tornadoes in the United States. Most deaths occur in open fields (ballfields) and under or near trees.
- Ninety-six people have been killed by lightning in Illinois in the past 40 years.
- In 2001, Illinois ranked second in the United States for lightning fatalities.
- In 2003, large hail resulted in nearly \$20 million in property and crop damage in Illinois. The largest hailstone in 2003 was in the McLean County town of Stanford, where 4 ½" hail fell on the evening of May 9<sup>th</sup>.

## **Flooding**

- Flooding is the number one severe weather killer nationwide.
- Nationally, 75 percent of the presidential disaster declarations are the result of floods.
- Floods can take several hours to days to develop.

- The most dangerous type of flooding is a flash flood. Flash floods can sweep away everyone and everything in their path. Most flash floods are caused by slow-moving thunderstorms, and occur most frequently at night, in mid to late summer.
- Fourteen people in Illinois have died from floods since 1995. Seven of the 13 deaths occurred in vehicles. Other deaths occur when people (especially children) play in or near flood waters, and when people living near flooded streams try to protect their property.

## **RECOMMENDED ACTIONS FOR SEVERE WEATHER**

By becoming familiar with and implementing the following recommended actions, you and your family will be better protected in the event of thunderstorms, tornadoes and flooding.

### **THUNDERSTORMS**

#### **BEFORE**

Know the terms used to describe severe thunderstorm threats:

**Severe Thunderstorm Watch**-- Severe thunderstorms are possible. Watch the sky and listen to the radio or television for more information. Be prepared to take shelter.

**Severe Thunderstorm Warning**-- Severe thunderstorms are occurring. Take shelter. Turn on a battery-operated radio or television to receive warnings and severe weather statements.

- Purchase a National Oceanic and Atmospheric Administration (NOAA) Weather Radio with a battery backup and tone-alert feature, which automatically alerts you when a Watch or Warning is issued. Know the county(s) in which you live and work. The National Weather Service uses county names when watches, warnings and advisories are issued and broadcast. New Specific Area Message Encoder (SAME) Weather Radios can be programmed to alarm only for a specific county or group of adjacent counties.
- Check the weather forecast before leaving for extended outdoor periods and postpone plans if severe weather is imminent.
- Keep a list of emergency phone numbers. Teach children how and when to call 911 for emergency assistance.
- Choose a friend or family member who lives out of the area for separated family members to call to report their whereabouts and condition.
- Keep important documents and records in a safe deposit box or other secure location.

- Maintain a disaster supply kit.

## **DURING**

- Close all windows and doors. Draw the shades or blinds to reduce the risk from flying glass if window or door glass breaks due to high winds.
- Monitor the radio or television for the latest weather information.
- Avoid using the telephone or other electrical appliances until the storm passes.
- Turn off air conditioners. If lightning strikes, a power surge could damage the compressor.
- Delay taking baths or showers until after the storm passes.
- If outdoors, seek shelter immediately. If you can hear thunder, you are probably close enough to the storm to be struck by lightning.
- If you are in a boat when a thunderstorm threatens, you should attempt to reach shore as quickly as possible.
- If you are driving, pull safely to the shoulder away from trees and power lines. Lightning can flash from trees or power poles into a vehicle through the radio antenna. Normally, in the open, a vehicle is a safe shelter from lightning. Avoid touching metal parts of the vehicle when lightning is nearby.
- If you find yourself in a position where there is no immediate shelter available, find a low spot away from trees and power poles where you can squat low to the ground. Make yourself the smallest target possible.

## **AFTER**

- Monitor the radio or television for emergency information or instructions.
- Check for injured victims. Render first aid if necessary. Most lightning strike victims can be revived with CPR. Do not attempt to move severely injured victims unless absolutely necessary. Wait for emergency medical assistance to arrive.
- Take photos of or videotape the damage to your home or property.
- Use the telephone only for emergency calls.

- If driving, be alert for hazards on the roadway.
- Check on neighbors or relatives who may require special assistance.

## **TORNADOES**

### **BEFORE**

Know the terms used to describe tornado threats:

**Tornado Watch** -- Tornadoes are possible. Watch the sky and listen to the radio or television for more information. Be prepared to take shelter. If you see any rotating funnel-shaped clouds, report them immediately by telephone to your local law enforcement agency. **If you live in a mobile home, this is the time to move to a more substantial structure.**

**Tornado Warning** -- A tornado has been sighted or indicated by weather radar. Take shelter. Turn on a battery-operated radio or television and wait for the "all clear" announcement by authorities.

**Refer to the “Before” section under THUNDERSTORMS plus the following:**

- Determine the best location in your home and office to seek shelter when threatened by a tornado. A basement or cellar will usually afford the best protection. If an underground shelter is not available, identify an interior room or hallway on the lowest level.
- Conduct periodic tornado safety drills with your family.
- Learn how to shut off the utilities to your home.
- Decide how and where your family will reunite.
- If you live in a mobile home, identify a safe shelter outside of your mobile home such as a community park shelter, a neighbor or friend’s house, or a nearby public building.
- In a mobile home, consider installation of an underground shelter that is large enough to accommodate you, your family or several other nearby mobile home residents.
- Consider retrofitting your house with special fasteners, connectors and reinforcing bands to strengthen the structural integrity. Also, consider installing a reinforced concrete and steel “safe room” as a small room within your house, or excavated and installed beneath your garage floor.

## **DURING**

**Take the following actions when a warning has been issued by the National Weather Service, when sirens have been activated, or when a tornado has been sighted.**

### **AT HOME**

- Go at once to your predetermined shelter (storm cellar, basement or the lowest level of the building). In a basement, go under the stairs, under a heavy piece of furniture or a work bench. Stay there until the danger has passed.
- If there is no basement, go to an inner hallway or a small inner room without windows, such as a bathroom or closet.
- Stay away from windows, doors and outside walls.
- Go to the center of the room. Outside windows and walls may be penetrated by high speed, wind-borne missiles.
- Get under a piece of sturdy furniture, such as a workbench or heavy table, and hold onto it.
- Use pillows, mattresses or cushions to protect your head and neck.
- If in a mobile home, get out and seek shelter elsewhere. A mobile home can overturn very easily even if precautions have been taken to tie down the unit. If there isn't a substantial shelter nearby, seek shelter in a low-lying area. Shield your head with your hands.

### **IN A SCHOOL, NURSING HOME, HOSPITAL, SHOPPING CENTER OR AT WORK**

- Go to the basement or to an inside hallway on the lowest level.
- Avoid places with wide-span roofs, such as auditoriums, cafeterias, gymnasiums and large hallways. Stay away from windows and open spaces.
- Get under a piece of sturdy furniture, such as a workbench or heavy table or desk, and hold onto it. If sturdy furniture is not available, make yourself the smallest target possible. Squat low to the ground. Put your head down and cover your head and neck with your hands.
- If in a high-rise building, go to small, interior rooms or hallways on the lowest level possible and seek protection as detailed above. Stay away from windows and outside walls.

## **OUTDOORS**

- If possible, get inside a substantial building.
- If shelter is not available or there is no time to get indoors, lie in a ditch, culvert or low-lying area or crouch near a strong building. Use arms to protect head and neck. Stay aware of the potential for flash flooding.

## **IN A VEHICLE**

- Never try to outrun a tornado in a vehicle. Heavy rain, hail and traffic may impede your movement. Tornadoes can change directions quickly and can easily lift up a vehicle and toss it through the air.
- Get out of the vehicle immediately and try to take shelter in a nearby building.
- If there isn't time to get indoors, get out of the vehicle and lie in a ditch, culvert or low-lying area away from the vehicle. Cover your head and neck with your hands.

## **AFTER**

- Monitor the radio or television for emergency information or instructions.
- Check for injured victims. Render first aid if necessary.
- Check on neighbors or relatives who may require special assistance.
- Do not attempt to move severely injured victims unless absolutely necessary. Wait for emergency medical assistance to arrive.
- Use the telephone only for emergency calls.
- Exit damaged buildings. Re-enter only if absolutely necessary using great caution.
- Take photos of or videotape the damage to your home or property.
- If driving, be alert for hazards on the roadway.
- If unaffected by the tornado, stay out of the damaged area until allowed to enter by officials. Your presence may hamper emergency operations.

## **FLOODING**

### **BEFORE**

Know the terms used to describe flood threats:

**Flood Watch** -- Flooding or flash flooding is possible. Be prepared to move to higher ground. Listen to NOAA Weather Radio, commercial radio or commercial television for additional information.

**Flood Warning** -- Flooding is occurring or will occur soon. If advised to evacuate, do so immediately.

**Flash Flood Warning** -- A flash flood is occurring or is imminent. Move to higher ground immediately.

**Flood Statement** -- Minor flooding of creeks and streams, streets, low-lying areas or basement flooding is occurring or is imminent.

**Refer to the “Before” section under THUNDERSTORMS plus the following:**

- Learn flood warning signs and, if used in your area, any community alert signals.
- Know how to shut off electricity, gas and water at main switches and valves. Know where gas pilots are located and how the heating system works.
- Have check valves installed in building sewer traps to prevent flood waters from backing up in sewer drains. As a last resort, use large corks or stoppers to plug showers, tubs or basins.
- Consider measures for flood proofing your home. Call your local building department or emergency management agency (EMA) for information.
- Consider purchasing flood insurance. Flood losses are not covered under homeowners insurance policies. Flood insurance is available in most communities through the National Flood Insurance Program. There is usually a period before it takes effect, so don't delay. Flood insurance is available whether the building is in or out of the identified flood-prone area. Call your insurance company for more information.
- Insure your property and possessions. Make an inventory of your possessions using paper lists, photographs and/or videotapes of your belongings. Leave a copy with your insurance company. Update your inventory and review your coverage with your insurance company periodically.



- Keep all of your important records and documents in a safe deposit box or another safe place away from the premises.

## **DURING**

- Monitor the radio or television for the latest weather information.
- Move valuable household possessions to the upper floor or move to another location if flooding is imminent and time permits.
- If instructed to do so by local authorities, turn off utilities at their source.
- Listen to a battery-operated radio for evacuation instructions.
- If advised to evacuate, do so quickly.
- Evacuation is much simpler and safer before flood waters become too deep for ordinary vehicles to drive through.
- Follow recommended evacuation routes. Short cuts may be blocked.
- People lose their lives by attempting to drive on a flooded roadway. The speed and depth of the water is not always obvious. There may be a hidden portion of the roadway washed out under the water. Two feet of water will carry away most automobiles.

## **AFTER**

- Flood dangers do not end when the water begins to recede. Listen to a radio or television and don't return home until authorities indicate it is safe to do so.
- When you are allowed to return, remember to help your neighbors who may require special assistance.
- Inspect foundations for cracks or other damage.
- When entering buildings, use extreme caution.
- Look for fire hazards.
- If your home was damaged, check the utilities.
- Stay out of buildings that remain in the flood waters.

- Avoid coming in contact with flood waters. The water may be contaminated with oil, gasoline or raw sewage.
- Do not wade through a flooded stream to protect or retrieve belongings.
- Consider your family's health and safety. Wash your hands frequently with soap and clean water if you come in contact with flood waters. Listen for news reports to learn whether the community's water supply is safe to drink.
- Throw away food -- including canned goods -- that has come in contact with flood waters.
- Pump out flooded basements gradually (about one-third of the water per day) to avoid structural damage.
- Service damaged septic tanks, cesspools, pits and leaching systems as soon as possible. Damaged sewer systems pose a health hazard.
- Stay alert for areas where flood waters have receded. Roads may have weakened and could collapse under the weight of a vehicle.
- Do not let children play in or near flood waters, flooded creeks or flood retention ponds.
- Stay away from downed power lines. Report them to the utility company immediately.
- If unaffected by the flood, stay out of the area until allowed to enter by officials. Your presence may hamper emergency operations.
- Monitor the radio for special information about where to go to get assistance for housing, clothing and food. Other programs are available to help you cope with the stress of the situation.
- Take photos of or videotape the damage to your home and your belongings.

## **SOURCES OF WEATHER AND WEATHER SAFETY INFORMATION**

For additional information on severe weather or other hazards, contact the following:

Your local Emergency Management Agency (EMA)

IEMA website at **[www.state.il.us/iema](http://www.state.il.us/iema)**

Your local chapter of the American Red Cross (ARC) or **[www.redcross.org](http://www.redcross.org)**

The nearest office of the National Weather Service (NWS)

National Weather Service Forecast Office websites:

Davenport, IA	at <b><a href="http://www.crh.noaa.gov/dvn">www.crh.noaa.gov/dvn</a></b>
Romeoville, IL	at <b><a href="http://www.crh.noaa.gov/lot">www.crh.noaa.gov/lot</a></b>
Lincoln, IL	at <b><a href="http://www.crh.noaa.gov/ilx">www.crh.noaa.gov/ilx</a></b>
St. Louis, MO	at <b><a href="http://www.crh.noaa.gov/lxx">www.crh.noaa.gov/lxx</a></b>
Paducah, KY	at <b><a href="http://www.crh.noaa.gov/pah">www.crh.noaa.gov/pah</a></b>

## NOAA WEATHER RADIO

Listen to NOAA Weather Radio for the latest weather forecasts. The National Weather Service broadcasts weather information, including watches, warnings and advisories 24 hours a day. Weather radio transmitters have a range of about 40 miles. Weather radio transmitters that cover Illinois are shown below. A map depicting the coverage of each transmitter can be found at: [www.crh.noaa.gov/ilx/nwr/nwexpand.htm](http://www.crh.noaa.gov/ilx/nwr/nwexpand.htm).

<u>CITY</u>	<u>STATION</u>	<u>FREQUENCY</u>
Bloomington	KZZ-65	162.525 MHZ
Cape Girardeau, MO	KXI-93	162.550 MHZ
Champaign	WXJ-76	162.550 MHZ
Chester	KXI-42	162.450 MHZ
Chicago	KWO-39	162.550 MHZ
Crescent City	KXI-86	162.500 MHZ
Crystal Lake	KXI-41	162.500 MHZ
DeKalb	WNG-536	162.550 MHZ
Dixon	KZZ-55	162.525 MHZ
Dubuque, IA	WXL-64	162.400 MHZ
Edwardsport, IN	WWG-82	162.425 MHZ
Evansville, IN	KIG-76	162.550 MHZ
Freeport	KZZ-56	162.450 MHZ
Galesburg	KZZ-66	162.400 MHZ
Hannibal, MO	WXX-82	162.475 MHZ
Hillsboro	KXI-79	162.425 MHZ
Jacksonville	WXM-90	162.525 MHZ
Jerseyville	KXI-70	162.450 MHZ
Kankakee	KZZ-58	162.525 MHZ
Lockport	KZZ-81	162.425 MHZ
Macomb	WXJ-92	162.500 MHZ
Maquoketa, IA	KZZ-83	162.500 MHZ
Marion	WXM-49	162.425 MHZ
Mayfield, KY	KIH-46	162.475 MHZ
McLeansboro	KXI-52	162.400 MHZ
Medill, MO	WXL-99	162.450 MHZ
Newton	KXI-48	162.450 MHZ
Odell	WXX-24	162.450 MHZ
Paris	KXI-47	162.525 MHZ
Peoria	WXJ-71	162.475 MHZ
Plano	KXI-58	162.400 MHZ
Princeton	WXL-22	162.425 MHZ
Putnamville, IN	WXX-72	162.400 MHZ
Racine, WI	KZZ-76	162.450 MHZ
Rock Island (Moline)	WXJ-73	162.550 MHZ
Rockford	KZZ-57	162.475 MHZ
Salem	KXI-49	162.475 MHZ
Shelbyville	KXI-46	162.500 MHZ
Springfield	WXJ-75	162.400 MHZ
St. Louis, MO	KDO-89	162.550 MHZ
West Burlington, IA	WXN-83	162.525 MHZ